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Sports shoe

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Inventor: OROSZI LASZLO

Applicant: OROSZI LASZLO

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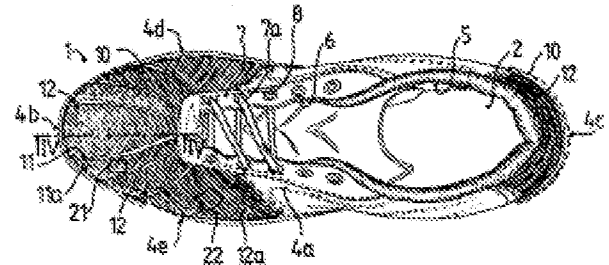
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Abstract of corresponding document: **WO9816129**

The invention relates to a sports shoe especially to improve the accuracy of passing on balls, which includes a sole and an upper part fastened to the sole to form an inner space serving for accommodating the foot; the upper part is provided with a loophole and a slit starting from the loophole to facilitate the sports shoe to be put on; one or more contraction elements as well as connecting elements serving for linking on the contraction elements to the upper part are arranged in the surroundings of the slit, and at least part of the outer surface of slit is provided with some coating. The characteristic feature of the solution is that the coating (10) consists of at least two guiding zones (11 and 12) and the outer side (11a, 12a) of at least one of the guiding zones (11, 12) is provided with impact elements (21, 22), while the impact elements (21, 22) are composed of an arranged assembly of extensions (21a, 22a)



protruding from the outer side (11a, 12a) and forming an angle (α) 1 to 80 DEG with the normal vector (11b, 12b) of outer side (11a, 12a), as well as of holes (21c, 22c) bordered by the extensions (21a, 22a).

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Description of corresponding document: **WO9816129**

#### Sports shoe

The invention relates to a sports shoe especially to improve the accuracy of passing on balls, which includes a sole and an upper part fastened to the sole to form an inner space serving for accommodating the foot; the upper part is provided with a loophole and a slit starting from the loophole to facilitate the sports shoe to be put on; one or more contraction elements as well as connecting elements serving for linking on the contraction elements to the upper part are arranged in the surroundings of the slit, and at least part of the outer surface of slit is provided with some coating.

In the course of time, shoes of various forms designed to suit the needs of the given kind of sport best and most suitable to the desired function became more and more popular in the various sports. The fundamental reason is that the various sports stress the sole and upper part of the sports shoe in a different way and to a different extent.

The sports shoe used in the football ranged among the most popular sports also suffered changes. The fundamental differences between the various football-shoes consist in the form and size of the cleats mounted on the sole of sports shoe; however, the upper part of the shoe used in different branches of sport is essentially of uniform smoothness and curved design adapted to the form of foot.

Its disadvantage is, however, that the curved surfaces and smooth external surface of sports shoe following the form of foot makes the accurate routing and the well aimed shot of the ball, thus reducing the spectacular and enjoyable character of the game.

An attempt to eliminate to deficiencies is made in the solution presented in the patent description HU T 65.597, the essence of which is that the football-shoe is provided with an additional part that can be pulled on its outer surface and with a connecting element that secures this additional part on the original shoe, while the additional part has ribs on its outer surface.

The disadvantage of this design is, however, that the additional part fails to fit to the carrying shoe accurately and is subject to displacement either due to the movement of player or the shots, thus making the play difficult.

It is also unfavourable that the fastening may be broken or damaged, with the consequence of separating

the additional part from the shoe, thus involving the risk of severe accidents.

It shall also be considered to be a disadvantage that the production of the additional part involves significant excess costs, and its cleaning and maintenance is difficult.

Another solution is presented in the deferred patent description HUH/3227. Here, it is the outer surface of the sports shoe itself that is provided with cornered plates aimed at increasing the accuracy when shooting.

However, the disadvantage of this design is, that the production of the sports shoe requires complicated special tools and production equipment; in addition, due to its shape and size that differs from those of the customary shoes significantly, its use involves a number of risks, while the suitable practice of using it requires a lot of unnecessary exercise.

The invention is aimed at eliminating the deficiencies of the known football shoes and at developing a version which establishes the possibility of using sports shoes similar to the shoes of traditional size and form, can be produced by using traditional manufacturing technology, eliminates any risk of accident during its use, while aimed shots raise no problem and no changes in the matured forms of movement are required.

The solution according to the invention is based on the recognition that by providing the outer surface of the sports shoe with a cover including special ribs that consist of segments and are arranged in a specific way different from those known so far, the task can be solved.

According to the objective set, the sports shoe according to the invention, especially to improve the accuracy of passing on balls - which includes a sole and an upper part fastened to the sole to form an inner space serving for accommodating the foot; the upper part is provided with a loophole and a slit starting from the loophole facilitating the sports shoe to be put on; one or more contraction elements as well as connecting elements serving for linking on the contraction elements to the upper part are arranged in the surroundings of the slit, and at least part of the outer surface of slit is provided with some coating - is designed in a manner that the coating consists of at least two guiding zones and the outer side of at least one of the guiding zones is provided with impact elements, while the impact elements are composed of an arranged assembly of extensions protruding from the outer side and forming an angle between  $1$  and  $80^\circ$  with the normal vector of outer side, as well as of holes bordered by the extensions.

A further criterion of the sports shoe according to the invention can be that at least part of extensions protruding from the impact elements is made of some flexible material to improve the grip e.g. rubber or other plastic.

In respect of embodiment, it is advantageous that at least part of the extensions of impact elements consist of longitudinal ribs arranged side by side parallel to the main plane of sole.

In another version of the sports shoe, at least part of the extensions of impact elements consist of longitudinal ribs arranged side by side oriented from the slit toward the sole.

In respect of the embodiment, it is also advantageous that the extensions that protrude are of rectangular - preferably parallelogram - section tilted towards the nose of the upper part.

A further criterion of the sports shoe is that the contraction element is made of shoe-lace provided with adhesive coating on its outer surface.

The sports shoe according to the invention has a number of advantageous features. The most important one is that, in respect of both its internal design and appearance - it is the same as the traditional football shoes, thus, the players are not required to change their habitual movement technique, are not obstructed in their movement, thus, the sports shoe involves no risk of accident.

It shall also be considered an advantage that the original coating can be produced in a simple way; in addition, mounting it on the sports shoe or designing it as the upper part of the shoe and, then, assembling the sports shoe do not require either special manufacturing technology, equipment or tools.

It shall also be considered to be favourable that the use of sports shoes according to the invention improves the shooting capability and ball control of players, increases the accuracy of passing and shots, thus making the game more animated and enjoyable with succession of goals which, as a result of increased standard of events, may make the football more popular.

In the following the invention is described in connection with an exemplary embodiment, based on a drawing. In the drawing:

Fig. 1 shows the side view of the sports shoe according to the invention.

Fig. 2 shows the top view of the sports shoe represented in Fig. 1.

Fig. 3 shows the sectional partial view of the sports shoe shown in Fig.1 along the plane III- III.

Fig. 4 shows the sectional partial view of the sports shoe shown in Fig. 2 along the plane IV- IV.

Figs. 1 and 2 show an exemplary embodiment of the 1 sports shoe according to the invention, which is a football shoe of a fighting player in this particular case. The 3 sole and 4 upper part of the 1 sports shoe are well shown, that are fastened together in a manner known in itself. The 3 sole and the 4 upper part of the 1 sports shoe form the 2 inner space that serves for accommodating the foot and holding it comfortable.

In a customary way, the 4 upper part is divided into the 4b noses, the 4c heel, the 4d inner part and the 4e outer part. The 4 upper part is provided with the 5 loophole and the 6 slit starting from the loophole to facilitate the sports shoe to be put on. On both sides of 6 slit - as shown well in Fig. 2 - the 8 connecting element - holes in this particular case - are arranged, being the latter 8 connecting elements connected together by means of the 7 contraction element which consists of the 7a shoe-lace in this embodiment.

Fig. 1 shows that the 10 coating is secured on the 4a outer surface of the 4 upper part by means of cementing. The 10 coating covers the 4b nose of the 4 upper part, part of the 4d inner part and the 4e outer part each, and the significant part of the 4c heel.

As it is well shown in Fig. 2, the region of the 10 coating near the 4b nose of 4 upper part is divided into

several 11 guiding zones and 12 guiding zones. The 11a outer side of the various 11 and 12 guiding zones are provided with 21 impact elements and 22 impact elements. It shall be noted here that the 21 impact elements and 22 impact elements associated with the 11 guiding zones and 12 guiding zones can be of pattern with different orientation, or even, of the same direction as the case may be.

In Fig. 4, the design and arrangement of the 21 impact elements located on the 11a outer side of the 11 guiding zone are shown. It is well shown that the 21 impact element consists of the 21a extensions and the 21c nests located between the 21a extensions in the form of ribs arranged side by side. The 21b axes of the 21a extensions and the 11b normal vector associated with a given point on the 11a outer side of the 11 guiding zone form an "a" angle between 1 and 80°, which is "a" = 40° in this embodiment.

Fig. 4 shows that the 21a extensions are bent toward the 4b nose of the 1 sports shoe, thus, their sectional view shows a cogging of parallelogram-like form tilted forwards as indicated.

Fig. 3 shows the arrangement of the 22 impact elements of the 12 guiding zone located near the 4c heel of the 1 sports shoe. Here again, the 22 impact elements are composed of the 22a extensions and the 22c nests surrounded by the 22a extensions. The 22b axes of these 22a extensions and the 12b normal vector associated with a given point on the 12a outer side of the 12 guiding zone also form an "a" angle between 1 and 80°. Fig. 3 also shows that the 22 impact elements of the 12 guiding zone in their sectional view also look like a cogging and protrude from the 12a outer side of the 12 guiding zone, bent toward the 3 sole of the 1 sports shoe.

It shall be noted here that the number of 11 and 12 guiding zones forming the 10 coating on the 1 sports shoes of players of different function as well as the pattern and orientation of the 21 and 22 impact elements can be different from each other. This embodiment - as already mentioned - represents a left-foot football shoe of a player of fighter function.

In any case, however, it is true that the 21 and 22 impact elements within the 11 and 12 guiding zones of the 10 coating shall show appropriate elasticity. As a result, it is reasonable to produce the 10 coating as a separate unit, preferably made of rubber mould and, then, to connect it e.g. by means of cementing to the 4a outer surface on the 4 upper part of the 1 sports shoe.

Of course, a version is also possible in which the 11 and 12 guiding zones of 10 coating and the associated 21 and 22 impact elements are made of the material of 4 upper part of the 1 sports shoe. In this case, no cementing is necessary; however, the 1 sports shoe made in this way requires more complicated production technology.

To put the 1 sports shoe on, the player opens the 6 slit by loosening the 7a shoe-lace used as the 7 contraction element and puts his/her foot through the 5 loophole into the 2 inner space of the 1 sports shoe. Then, by tightening the 7a shoe-lace across the 8 connecting elements, the 6 slit will be contracted, thus pressing the 4 upper part of the 1 sports shoe on the foot of the player.

During the game, the player handles the ball passed to him/her in a manner that he/she shoots it by means of either of the 11 and 12 guiding zones that form the 10 coating of the 1 sports shoe so as to transfer an impact to the ball according to his/her will. For example, the player shoots the ball by means of the 12 guiding zone - provided with ribs of symmetric V-shape as shown in Fig. 2 - of the 10 coating, located

above the 4b nose. In this case, when the ball not shown in the Figures becomes in contact with the 22a extensions forming the 22 impact element, the latter displace from the direction of the 4b nose toward the 5 loophole of the 4 upper part. As a result of this displacement, energy will be accumulated in the 22a extensions that transfer their energy to the ball at the moment it leaves the 1 sports shoe.

Thus, in addition to the force acting in the direction of the shot, the ball also receives a spin directed downwards. As a result, the shot becomes directed and more "flat", with the consequence of increasing the number of shots for goal to a significant extent.

According to the exemplary embodiment presented, 21 and 22 impact elements forming a set of ribs of specified shape and oriented in a specific direction are also arranged on the 4d inner part and 4e outer part of the 4 upper part of the 1 sports shoe.

In order to facilitate the shot by heel, the 4c heel is provided with 22 impact elements forming a set of ribs directed horizontally, that is, parallel to the 3a main plane of the 3 sole.

The reason is, that the pattern of this kind offers the possibility of passing the ball more accurately even by heel-shot and, in addition, of preventing the ball from sliding on the 4c heel of the 1 sports shoe when passing the ball by means of heel.

The sports shoe is well suitable to be used in the football.

List of references 1 sports shoe 2 inner space 3 sole 3a main plane 4 upper part 4a outer surface  
4b nose  
4c heel  
4d inner part  
4e outer part 5 loophole 6 slit 7 contraction element 7a shoe-lace 8 connecting element 10 coating 11  
guiding zone 1 1a outer side  
1 lib normal vector 12 guiding zone 1 2a outer side  
1 2b normal vector 21 impact element 21a extension  
21b axis  
1c nest 22 impact element 22a extension  
22b axis  
22c nest "a" angle

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Claims of corresponding document: **WO9816129**

CLAIMS

1. Sport shoe, especially to improve the accuracy of passing on balls, which includes a sole and an upper part fastened to the sole to form an inner space serving for accommodating the foot; the upper part is provided with a loophole and a slit starting from the loophole facilitating the sports shoe to be put on; one

or more contraction elements as well as connecting elements serving for linking on the contraction elements to the upper part are arranged in the surroundings of the slit, and at least part of the outer surface of slit is provided with some coating, characterized by that the coating (10) consists of at least two guiding zones (11 and 12) and the outer side(11a, 12a) of at least one of the guiding zones (11, 12) is provided with impact elements (21, 22), while the impact elements (21, 22) are composed of an arranged assembly of extensions (21a, 22a) protruding from the outer side(11a, 12a) and forming an angle (α) 1 to 80° with the normal vector(11b, 12b) of outer side(11a, 12a), as well as of holes (21c, 22c) bordered by the extensions (21a, 22a).

2. Sports shoe as in claim 1, characterized by that at least part of extensions (21a, 22a) protruding from the impact elements (21, 22) is made of some flexible material to improve the grip e.g. rubber or other plastic.

3. Sports shoe as in claim 1 or 2, characterized by that at least part of the extensions (21a, 22a) of impact elements (21, 22) consist of longitudinal ribs arranged side by side parallel to the main plane (3a) of sole (3).

4. Sports shoe as in either of the claims 1 to 3, characterized by that at least part of the extensions (21a, 22a) of impact elements (21, 22) consist of longitudinal ribs arranged side by side oriented from the slit (6) toward the sole(3).

5. Sports shoe as in either of the claims 1 to 4, characterized by that the extensions (21a) that protrude are of rectangular - preferably parallelogram - section tilted towards the nose (4b) of the upper part (4).

6. Sports shoe as in either of the claims I to 5, characterized by that the contraction element (7) is made of shoe-lace (7a) provided with adhesive coating on its outer surface.

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